

in other parts, there would be in the map 3990 instead of 1284 observed; and if the resolvables were as richly spread we should have 735 instead of 157 observed. It will be seen that while this small space is extraordinarily rich in irresolvable nebulae, its richness in resolvable nebulae not only increases in proportion, but in a far greater ratio. (I may note that if the richness of the whole heavens were compared with the richness of this small space, the contrast would be even more striking.)

The coincidence of this great cluster of irresolvable nebulae with the relatively greater cluster of resolvable nebulae of course cannot be ascribed to chance.

I have not found that this close association between resolvable and irresolvable nebulae has been noticed before, although you advocate the conclusion to which it points on more general grounds in your paper in 1869 (Supplementary Number of the *Monthly Notices*).

Oakhurst Lodge, Tufnell Park,
Holloway, N., March 8, 1873.

The Meteor Shower of 1872, November 27th.

By Professor George Forbes.

Seeing that this shower probably had an intimate connexion with Biela's Comet, I laid before me three objects:—the determination of the radiant-point, the indication of the tracks of more brilliant meteors, and data for determining their velocity.

1. *Determination of the radiant-point.* Being desirous of determining not merely the point of radiation, but also whether the radiation were good, I proceeded in the following manner. I marked in my note-book, as accurately as possible, the positions of the chief stars in *Cassiopeia*, *Perseus*, and *Andromeda*. Upon this were drawn the tracks of *all* the meteors coming within that range (except when several appeared at the same instant). After observing in this manner for three hours, those alone were marked that appeared close to the point of radiation.

The tracks were afterwards carefully copied on an accurate star-map, and the lines indicating the paths were produced backwards through the point of radiation. In this manner the radiant-point can be determined by the relative blackness caused by so many black lines intersecting. Hence nothing is left to the eye's judgment. 112 tracks were thus treated. The chart was photographed, and a copy is forwarded herewith. The parallels of North Declination 45° and 50° are indicated, as also the lines of R.A. from 1^h to 2^h . The densest part of the intersection of black lines is at R.A. = $1^h 35^m$, N. Decl. 46° . This I conclude is the radiant-point. A perfectly stationary meteor appeared at R.A. $1^h 40^m$, N. Decl. 46° .

The radiation is on the whole good. That is to say, there are few meteors whose tracks diverge far from this point.

2. *Tracks of brilliant meteors.* Most of the meteors were equal to stars of the third magnitude; some of the second, a few of the first or brighter. The time of appearance of these last only was recorded.

No.	Time h m	Beginning.		End		Duration. s	Remarks.
		R.A. h m	N. Decl. °	R.A. h m	N. Decl. °		
1	7 22	0 40	52	22 20	62	3	
2	7 34	1 10	35	0 40	27	1½	
3	7 39	1 0	35	0 20	27		
4	8 5	2 0	40	2 30	30		Longer than usual; very brilliant.
5	8 6	2 40	55	3 40	58		= Venus; train lasted 5 ^m ; drifted to N.E. (wind was from S.W.)
6	8 25½	1 10	57	0 50	68		= 1st magnitude.
7	8 51	In the south east.					Burst.
8	9 8	2 40	55	3 40	58		Very brilliant; train red and green.
9	9 33½	3 0	52	4 0	52	2½	

The watch used was 30^s slow.

3. *Data for determining the velocity.* Besides the data in the last paragraph, which will be useful when the average height has been determined, I made the following determinations of meteors which seemed to have a normal velocity.

Distance from Radiant Point.		
At Beginning.	At End.	Duration.
0	0	1½
4	9	1½
4	10	1½
9	18	2
7½	14	2½

The night was very clear.

Anderson's University, Glasgow.

Observations of Meteors and Meteoric Showers of Nov. 1872.

By Captain Chimmo, of H.M.S. "Nassau."

(Communicated by Capt. Toynbee.)

The following extracts are from the log of H.M.S. "Nassau," Capt. W. Chimmo, I send them to you as I know some of the Fellows are working at the subject of meteors.

"13th July, 1872, 2 A.M. Observed a brilliant meteoric body fall vertically, and splash into the sea on the port beam. Position at noon, 2°15' N. 124°30' E.